

Amendments to the Claims:

1. (cancelled)

2. (currently amended) A fluid exchange system for use in exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission and a fluid cooling circuit, said automatic transmission having an internal fluid pump to conduct a circulated fluid in the fluid cooling circuit, said circuit being accessed to define a pair of transmission cooling circuit ports, said fresh fluid being contained in and dispensed from a source external to said vehicle, said used fluid initially being contained within said vehicle and discharged into a receptacle external to said vehicle, said fluid exchange system comprising:

a first fluid line selectively intercoupled to the fluid exchange system and one of the pair of transmission cooling circuit ports to conduct fluid from the cooling circuit;

a second fluid line selectively intercoupled to the fluid exchange system, the source, and the other one of the pair of transmission cooling circuit ports to conduct fluid into the cooling circuit; and

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a bypass fluid line, said bypass fluid line being selectively intercoupled between the pair of transmission cooling circuit ports, said fluid exchange system having a pair of operational conditions including: a first operational condition wherein used fluid is passed through the bypass fluid line and reintroduced into the cooling circuit while being substantially unrestricted by the bypass fluid line so that pressure within the bypass fluid line is essentially substantially equivalent to pressure within the fluid cooling circuit, and a second operational condition wherein used fluid is received into the first fluid line and fresh fluid is received into the second fluid line and introduced into the cooling circuit.

3. (currently amended) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission, said used fluid initially being contained within said transmission, at least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said method comprising the steps of:

identifying a transmission cooling circuit on the vehicle;

25338867.1

uncoupling a portion of the transmission cooling circuit to provide access to a first transmission cooling circuit port and a second transmission cooling circuit port, one of said transmission cooling circuit ports directing used transmission fluid outwardly under pressure from the automatic transmission;

providing a fluid exchange system having a first conduit, a second conduit, and a bypass conduit providing selective fluid communication between the first and second conduits;

coupling the bypass conduit to the first and second transmission cooling circuit ports;

energizing the transmission to flow used fluid through the bypass conduit, said flow being substantially unrestricted by the bypass conduit so that pressure within the bypass conduit is ~~essentially~~ substantially equivalent to pressure within the transmission cooling circuit;

selectively stopping the flow in the bypass conduit; and

providing the first and second conduits in fluid communication with the first and second transmission cooling circuit ports and flowing used fluid into the first conduit and flowing fresh fluid into the second conduit during an exchange procedure.

4. (currently amended) A fluid exchange system for performing a fluid exchange procedure on an automatic transmission of a vehicle having a pair of transmission cooling circuit ports, said fluid exchange system comprising:

a first conduit for communicating fluid from the transmission;

a second conduit for communicating fluid to the transmission; and

a bypass conduit for selectively communicating fluid between the pair of transmission cooling circuit ports, and wherein a bypass mode of operation is established by selectively coupling said bypass conduit between the pair of transmission cooling circuit ports so that used fluid from the fluid circuit is passed through the bypass conduit, said used fluid being passed substantially unrestricted through the bypass conduit so that pressure within the bypass conduit is ~~essentially~~ substantially equivalent to pressure at the pair of transmission cooling circuit ports; and wherein an exchange mode of operation is established by selectively uncoupling the bypass conduit and coupling the first and second conduits so that used fluid

from the fluid circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid circuit.

5. (original) A fluid exchange system of claim 4 further comprising a fresh fluid receptacle and a used fluid receptacle, at least one of the receptacles being removable from the exchange system for refilling or emptying purposes.

6 - 23. (cancelled)

24. (currently amended) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said circuit being accessed to define a pair of transmission cooling circuit ports, said used fluid initially being contained within said transmission and said fluid cooling circuit, at least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said method comprising the steps of:

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the pair of transmission cooling circuit ports;

establishing a bypass condition by ~~selectively coupling said~~ providing the bypass conduit in fluid communication between the pair of transmission cooling circuit ports so that used fluid from the fluid cooling circuit is passed through the bypass conduit without substantial restriction and reintroduced into the accessed fluid cooling circuit ~~while being substantially unrestricted by the bypass conduit so that pressure within the bypass conduit is essentially equivalent to pressure at the pair of transmission cooling circuit ports~~; and

establishing a fluid exchange condition by ~~selectively uncoupling the bypass conduit and coupling~~ providing the first and second conduits in fluid communication with the pair of transmission cooling circuit ports so that used fluid from the fluid cooling circuit is received

25338867.1

into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit.

25. (previously amended) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, at least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said method comprising the steps of:

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the first conduit to the second conduit;

coupling the first and second conduits of the fluid exchange system into an accessed fluid cooling circuit;

establishing a bypass condition by selectively coupling said bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is passed through the bypass conduit and into the second conduit whereby used fluid is reintroduced into the accessed fluid cooling circuit;

establishing a fluid exchange condition by selectively uncoupling the bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit; and

measuring a fluid parameter in the bypass conduit during the bypass condition.

26. (previously amended) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, at

least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said method comprising the steps of:

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the first conduit to the second conduit;

coupling the first and second conduits of the fluid exchange system into an accessed fluid cooling circuit;

establishing a bypass condition by selectively coupling said bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is passed through the bypass conduit and into the second conduit whereby used fluid is reintroduced into the accessed fluid cooling circuit;

establishing a fluid exchange condition by selectively uncoupling the bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit; and

measuring a fluid parameter in the first and second conduits during the exchange condition.

27. (previously added) The method of claim 26, further comprising the step of:

adjusting a fluid flow rate of at least the first conduit during the exchange condition to approximately match a fluid flow rate of the bypass conduit measured during the bypass condition.

28. (previously added) The method of claim 25 wherein the step of measuring the fluid parameter in the bypass conduit is accomplished with a pressure indicator.

29. (previously added) The method of claim 25 wherein the step of measuring the fluid parameter in the bypass conduit is accomplished with a fluid flow meter.

25338867.1

30. (previously added) The method of 29 wherein the fluid flow meter is electronic.

31. (previously added) The method of claim 26 wherein the step of measuring the fluid parameter in the first and second conduits is accomplished with a pressure indicator.

32. (previously added) The method of claim 26 wherein the step of measuring the fluid parameter in the first and second conduits is accomplished with a fluid flow meter.

33. (previously added) The method of claim 32 wherein the fluid flow meter is electronic.

34. (previously added) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, at least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said method comprising the steps of:

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the first conduit to the second conduit;

coupling the first and second conduits of the fluid exchange system into an accessed fluid cooling circuit;

establishing a bypass condition by selectively coupling said bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is received into the first conduit and is passed through the bypass conduit and into the second conduit whereby used fluid is reintroduced into the accessed fluid cooling circuit;

measuring a fluid parameter in the bypass conduit during the bypass condition;

25338867.1

establishing a fluid exchange condition by selectively uncoupling the bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit;

adjusting an exchange fluid parameter of the first conduit and the second conduit during the exchange condition to approximately match the fluid parameter measured during the bypass condition.

35. (previously added) The method of claim 34, wherein the step of measuring the fluid parameter in the bypass conduit includes reference to a pressure indicator in fluid communication with the bypass conduit.

36. (previously added) The method of claim 34, wherein the step of measuring the fluid parameter in the bypass conduit includes reference to a flow meter in fluid communication with the bypass conduit.

37. (previously added) The method of claim 36, wherein the fluid flow meter is electronically indicating.

38. (previously added) The method of claim 34, wherein the step of adjusting the exchange fluid parameter of the first conduit and the second conduit is achieved through a manipulation of a fluid valve in fluid communication with at least one of the first or second conduit.

39. (previously added) The method of claim 38, wherein the fluid valve is electrically operated.

40. (previously amended) An exchange procedure for changing a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the

25338867.1

used fluid circulated through the fluid cooling circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, at least a substantial portion of which is subsequently discharged into a receptacle, said fresh fluid initially being contained in a source container, said procedure comprising the steps of:

providing a fluid exchange system having a plurality of conduits, including a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit;

accessing the fluid cooling circuit of the transmission to provide a connection access to a pair of circuit ports;

coupling the bypass conduit between the pair of circuit ports;

flowing used fluid through the bypass conduit so that used fluid from the fluid cooling circuit is recirculated back into the fluid cooling circuit;

measuring an approximate fluid flow rate in the cooling circuit by measuring a fluid flow rate in the bypass conduit;

pumping fresh fluid at a selective fluid flow rate into the fluid cooling circuit through the second conduit while receiving used fluid from the fluid cooling circuit through the first conduit; and

equalizing the selective fluid flow rate to the approximate fluid flow rate in the cooling circuit as measured.

25338867.1



41. (previously added) An exchange procedure of claim 40, wherein the step of equalizing the selective fluid flow rate is achieved by operation of one or more fluid valves in fluid communication with at least one of the first or second conduits.

42-50. (canceled)

51. (new) A fluid exchange machine comprising:

a first fluid line selectively intercoupled to the fluid exchange system and one of a pair of transmission cooling circuit ports to conduct fluid from a cooling circuit of a vehicle;

a second fluid line selectively intercoupled to the fluid exchange system, a source of fresh fluid, and the other one of the pair of transmission cooling circuit ports to conduct fluid into the cooling circuit; and

a bypass fluid line in selective fluid communication with the pair of transmission cooling circuit ports, said fluid exchange system having a pair of operational conditions including: a first operational condition wherein used fluid is passed through the bypass fluid line and reintroduced into the cooling circuit without substantial flow restriction, and a second operational condition wherein used fluid is received into the first fluid line and fresh fluid is received into the second fluid line and introduced into the cooling circuit.

52. (new) The fluid exchange machine of claim 51 further comprising:

at least one electrically operated valve for controlling fluid flow through either one or both of the first and second fluid lines.

53. (new) The fluid exchange machine of claim 51 further comprising:

at least one electrically operated valve for controlling fluid flow through the bypass fluid line.

54. (new) The fluid exchange machine of claim 51 further comprising:

a portable chassis containing a source of fresh fluid.

55. (new) The fluid exchange machine of claim 51 further comprising:

25338867.1

a portable chassis containing a receptacle for used fluid.

56. (new) The fluid exchange machine of claim 51, wherein the first and second fluid lines each include a flexible fluid conduit extending from the machine.

57. (new) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, said method comprising the steps of:

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the first conduit to the second conduit;

coupling the first and second conduits of the fluid exchange system into an accessed fluid cooling circuit;

establishing a bypass condition by selectively coupling the bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is passed without substantial flow restriction through the bypass conduit and into the second conduit whereby used fluid is reintroduced into the accessed fluid cooling circuit; and

establishing a fluid exchange condition by selectively reducing flow through the bypass conduit so that used fluid from the fluid cooling circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit.

58

59. (new) A method for exchanging a used fluid with a fresh fluid in a vehicle having an automatic transmission connected to a fluid cooling circuit, with the used fluid circulated through the circuit under power of an internal pump within the transmission, said used fluid initially being contained within said transmission and said fluid cooling circuit, said method comprising the steps of:

25338867.1

providing a fluid exchange system having a first conduit for communicating fluid from the transmission, a second conduit for communicating fluid to the transmission, and a bypass conduit for selectively communicating fluid between the first conduit to the second conduit;

coupling the first and second conduits of the fluid exchange system into an accessed fluid cooling circuit;

operating the vehicle within normal operational parameters with the machine being in a fluid exchange condition wherein used fluid from the fluid cooling circuit is received into the first conduit and fresh fluid is received into the second conduit and introduced into the accessed fluid cooling circuit;

establishing a bypass condition by selectively coupling the bypass conduit between the first and second conduits so that used fluid from the fluid cooling circuit is passed through the bypass conduit without substantial flow restriction and into the second conduit whereby used fluid is reintroduced into the accessed fluid cooling circuit; and

operating the vehicle within normal operational parameters with the machine being in the bypass condition.